

Mining Sector Overview



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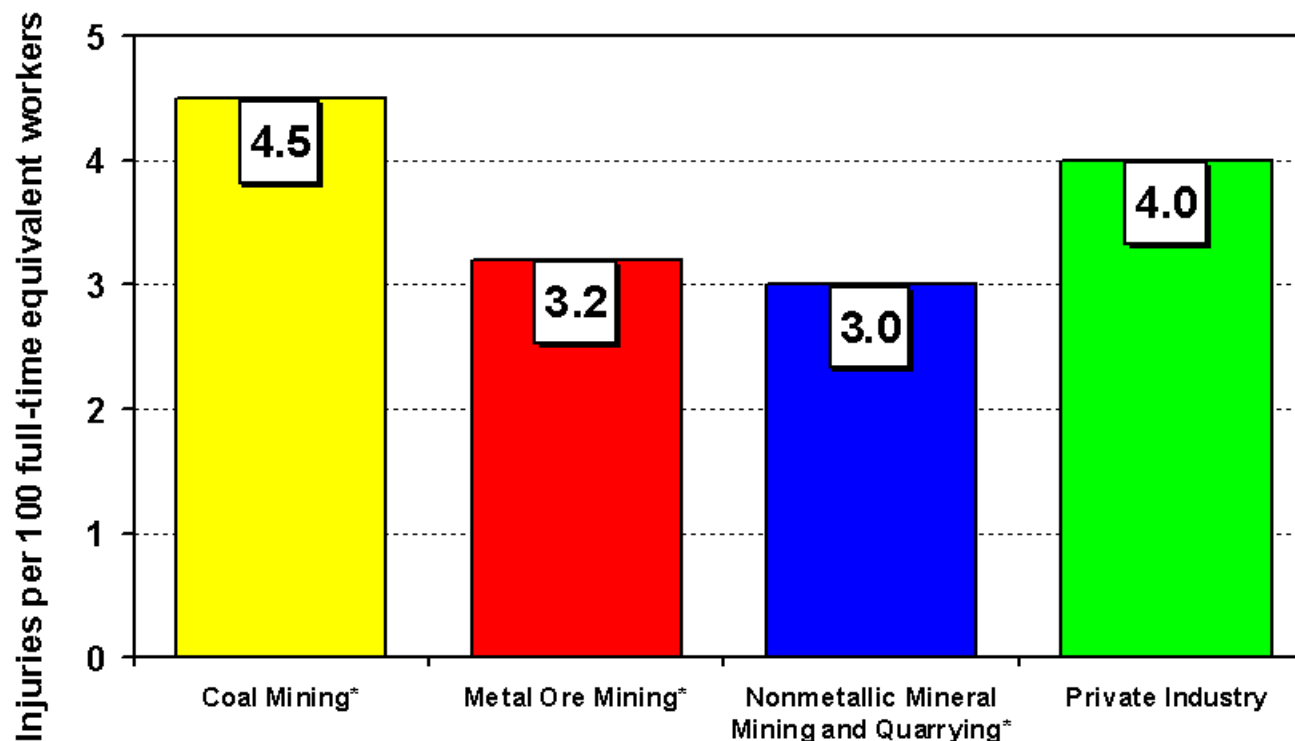
Mining PPE Requirements: 1900/ Today



Mining Sector Summary

- The Mining sector comprised over 14,000 mines and 350,000 workers in 2009
- These workers face occupational safety and health risks that include:
 - falling materials,
 - explosions,
 - fires,
 - powered haulage,
 - overexertion,
 - electrical equipment,
 - exposure to particulates and dusts including diesel emissions, coal dust and silica dust.
- The mining processes are among the most demanding and complex in an industrial society, and this inherently dangerous industry has historically had the highest risks of fatality and injury.

Nonfatal Injury Incident Rate in Coal Mining, Metal Ore Mining, Nonmetallic Mineral Mining and Quarrying, and Private Industry, 2007

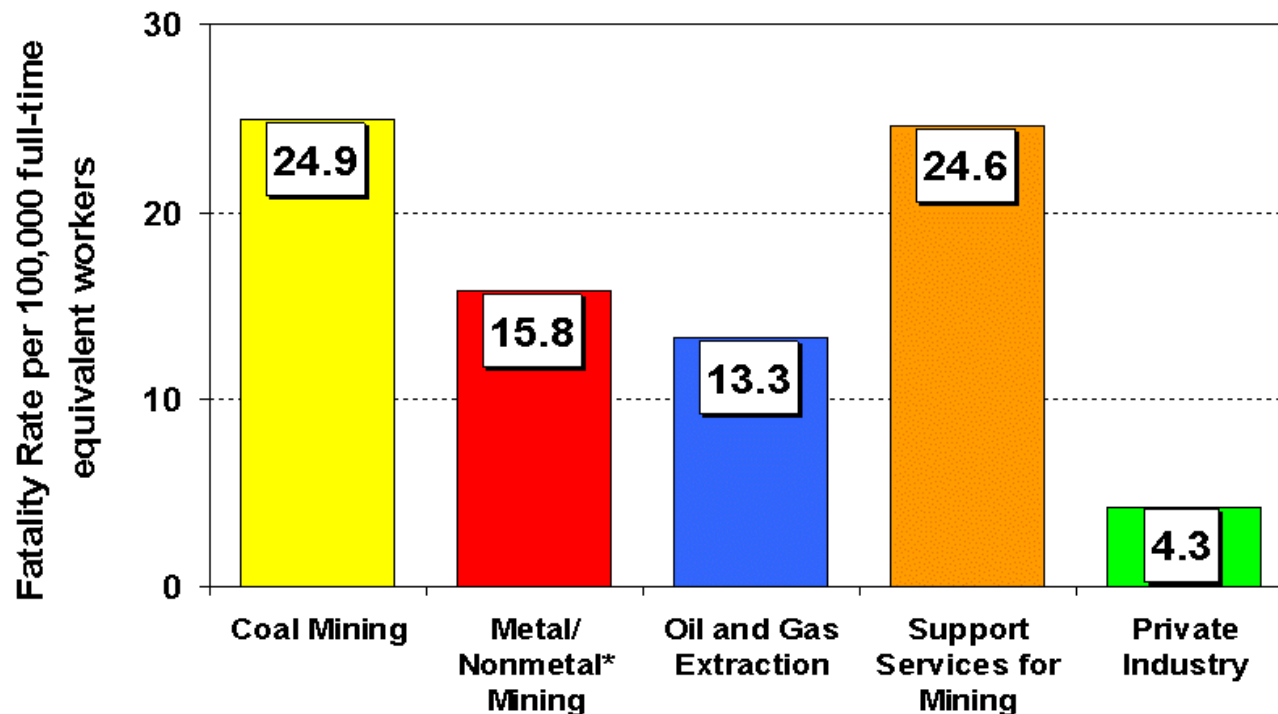


Data source: BLS

*Independent mining contractors are excluded



Fatality Rate for the Mining Industry and Private Industry, 2007



• Metal/Nonmetal includes Metal, Nonmetal, Stone, and Sand and Gravel Mining. Data reported for the metal/nonmetal industry are not available separately from the CFOI program.

Differences observed between the CFOI and MSHA results are most likely attributable to the difference in classification structures and inclusion criteria used by the two agencies.

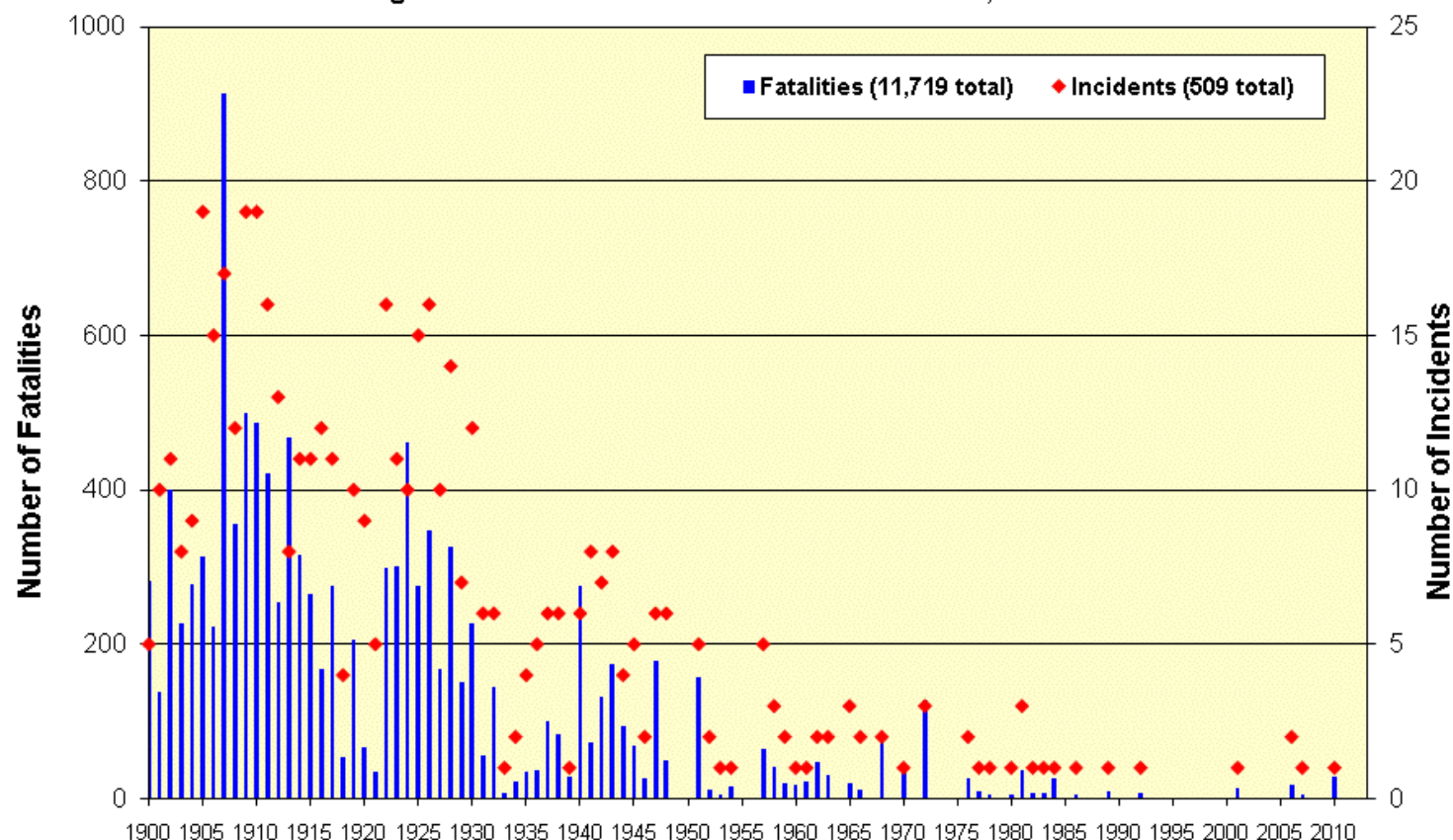
Data source: BLS, CFOI, CPS



Coal Mining Disaster Incidents and Fatalities

1900 through Latest Disaster on 4/5/2010

A mining disaster is an incident with 5 or more fatalities; Data source: MSHA



Data source: MSHA



Mine Rescue/ Self-Escape



Mining Sector Strategic Goals

- Reduce respiratory diseases in miners by reducing health hazards in the workplace associated with coal worker pneumoconiosis, silicosis, and diesel emissions.
- Reduce noise-induced hearing loss in the mining industry.
- Reduce repetitive and cumulative musculoskeletal injuries in mine workers.
- Reduce traumatic injuries in the mining workplace.
- Reduce the risk of mine disasters (fires, explosions, and inundations).
Minimize the risk to and enhance the safety and effectiveness of emergency responders.
- Reduce ground failure fatalities and injuries in the mining industry.
- Determine the impact of changing mining conditions, new and emerging technologies, and the changing patterns of work on worker safety and health.
- More information: www.cdc.gov/niosh/programs/mining

Mining NORA Sector Council

NORA Mining Council:

Coordinator: Michael Jenkins, NIOSH / OMSHR /DMRO

Asst. Coordinator: Randy Reed, NIOSH / OMSHR /RHCB

Program Manager: Jeffrey Kohler, NIOSH / OMCSH



Goal:

- To identify the most salient needs of this large and diverse global sector.
- Seek to facilitate the most important research, understand the most effective intervention strategies, and learn how to implement those strategies to achieve sustained improvements in workplace practice.

Information:

<http://www.cdc.gov/niosh/nora/councils/mining/default.html>

Mining Projects with PPE Goals

- Hearing Loss Prevention Research Development & Planning
- Development and Evaluation of Prototype Kneepads for the Low-Seam Mining Industry
- Intervention Development and Evaluation for Hearing Loss Prevention
- Comparison of Variability in Attainable Travel w/Work Rate, 2 types of SCSRs
- PPT Surveillance Planning
- Long Term Field Evaluation (LTFE)
- Mine Rescue Ensembles
- Autonomous Electromechanical Gas Detection Microsystem for Mine Safety
- More information: www.cdc.gov/niosh/mining/topics

Mine Safety and Health Research Advisory Committee

MSHRAC

- The Mine Safety and Health Research Advisory Committee shall advise the Secretary, HHS; the Director, Centers for Disease Control and Prevention (CDC); and the Director, National Institute for Occupational Safety and Health (NIOSH), CDC, on the conduct of mine health research including making of grants and entering into contracts for such research (30 U.S.C. ' 812 (b)(2), (Public Law 91-173, ' 102(b)(2)).
- The committee shall also provide advice on the conduct of mine safety research. The committee shall evaluate the degree to which: 1) the mine research activities of NIOSH conform to those standards of scientific excellence appropriate to Federal scientific instructions in accomplishing objectives in mine safety and health; 2) the mine research activities, along or in conjunction with other known activities inside and outside of NIOSH, address currently relevant needs in the field of mine safety and health; and 3) the research activities produce intended results in addressing important research questions in mine safety and health, both in terms of applicability of the research findings and translation of the findings
- More information: www.cdc.gov/niosh/maso/FACM/facmMSHRAC.htm

Partnerships

- Labor
 - United Mine Workers of America (UMWA)
 - United Steelworkers of America (USWA)
 - International Union of Operating Engineers (IUOE)
- Industry
 - Bituminous Coal Operators' Association (BCOA)
 - National Mining Association (NMA)
 - National Stone, Sand, and Gravel Association (NSSGA)
 - Industrial Minerals Association-North America (IMA-NA)
 - Northwest Mining Association (NWMA)
- Government
 - Mine Safety and Health Administration (MSHA)
 - State Mining Agencies

Mining Breakout Sessions

PPT Stakeholder Meeting

Breakout Session 1: 9:15 – 10:45am (Room - Wright AB)

Technologies to Improve Current Self-Contained Self-Rescuer (SCSR) Designs and Mine Rescue Ensembles

Topics:

- History of SCSRs (John Kovac)
- SCSR design improvements and technologies to address user needs (Doug Kimball and Kent Armstrong)

Breakout Session 2: 3:00 – 4:30pm (Room - Wright AB)

Design and Performance requirements for Mine Rescue Ensembles to Identify Existing Limitations and Current Best Practices

Topics:

- Mine rescue ensemble research – Best practices learned from the fire service (Bill Monaghan)
- Underground coal, metal, and nonmetal mine illumination systems for improving miner visual performance (John Sammarco)
- Mine Rescue and Escape Training Laboratory (Launa Mallett)

Mining Posters

Sector	#	Name	Poster Topic
MN	21	Hudak, Roberta NIOSH OMSHR HLPB	NIOSH Hearing protection innovations and evaluations
MN	22	Lutz, Brent Synkera Technologies Inc.	Advances in Chemical Sensing Allow Improvements in PPT
MN	23	Monaghan, Bill NIOSH NPPTL	Mine Rescue Ensembles for Underground Coal Mining
MN	24	Pollard, Jonisha NIOSH OMSHR DMRO HFB	Development of a Novel Kneepad for Mining
MN	25	Sammarco, John NIOSH OMSHR	Light-Emitting Diode (LED) Cap Lamp Research
MN	26	Stein, Bob NIOSH NPPTL	Long Term Field Evaluation of Respiratory Devices

Quality Partnerships Enhance Worker Safety & Health



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Disclaimer:

The findings and conclusions in this presentation have not been formally disseminated by the National Institute for Occupational Safety and Health and should not be construed to represent any agency determination or policy.

Thank you